

Overview

XJEase is a high-level programming language that provides you with all of the functionality, flexibility and control you require to create a complete JTAG test solution.

Check your board for shorts and opens using the built-in interconnect test and information taken straight from your netlist. Program JTAG devices (e.g. CPLDs, FPGAs) and non-JTAG devices (e.g. Flash). Run advanced tests on non-JTAG devices. Optimise your test coverage before PCB layout.

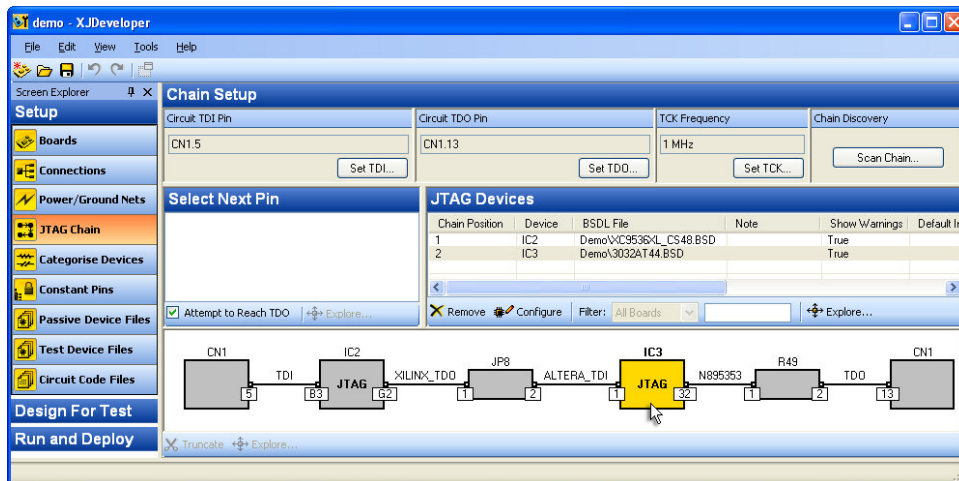
XJDeveloper

XJDeveloper is a graphical application that enables you to generate the XJEase description of the circuit you want to test. The simple drag-and-drop interface allows you to set up your JTAG chain and categorise all of the non-JTAG devices in your circuit quickly and easily, while the built-in netlist explorer provides a simple interface for you to view the connectivity between devices.

Testing non-JTAG devices

It's easy in XJEase to use devices in your JTAG chain to check the connections of non-JTAG devices. For example, by writing test values to a memory chip and reading them back, you can verify that the data and address lines are free from shorts and opens. You can also run more advanced tests, such as sending and receiving Ethernet packets — without booting the processor.

Setup your project with XJDeveloper



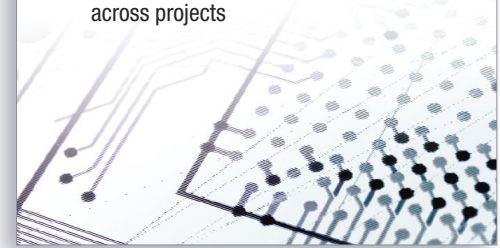
Testing JTAG devices

XJEase uses information from your netlist and Boundary Scan Description Language (BSDL) files to test the connections around the JTAG devices on the board you want to test. BSDL files are generally available for free on component manufacturers' websites.

With XJEase, you have complete control over the tests and how they are run. XJEase has been designed to make accessing the hardware simple — just describe which pins on your non-JTAG device should be driven and which ones should be read. You don't need to know about JTAG instructions, or to work out which JTAG device has to drive the pins on the non-JTAG device.

Key Benefits

- Reduce your time spent debugging boards due to high precision fault isolation
- Improve your time to market and reduce project risk by early design verification
- Reduce your test development time by reusing tests from prototype/design in manufacturing and field support
- Ongoing time savings by test reuse across projects



Rapid Test Development

The tests for a non-JTAG device are written for the device itself, regardless of the rest of your circuit. This allows you to reuse the tests whenever that device is designed into any future circuit, saving you time and money.

You also have all the advantages you would expect from a high-level programming language — variables, loops, conditional execution and function calls and much more. You can interact with your board in real time, not just “set and check” values.

Free Library

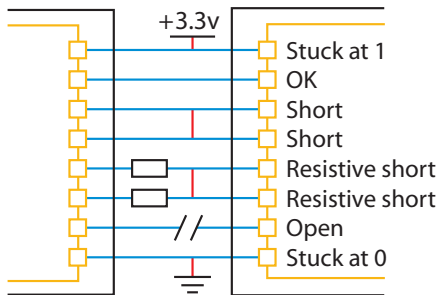
You can download a large number of XJEase device files for testing non-JTAG devices from www.xjtag.com. Even if you have never used XJTAG before, it is possible to create a fully functioning test system with no extra programming.

If you can't find a file for your exact device, you can download the file for a similar device and make a few changes to adapt it to yours. We also offer a consultancy service to design tests to your exact requirements.

Interconnect test

XJEase has a built-in interconnect test for all of the pins on your JTAG devices. Depending on what access is available with boundary scan, the interconnect test will check for a range of shorts and open circuits, including shorts to power and ground, resistive shorts and shorts via an inverter.

Pull-up and pull-down resistor checking is also part of the automatic tests. If your board has minimal cross-talk, you can also add in more advanced testing for remote short circuits.



Find a wide range of faults using XJEase interconnect test

Having detected an error, the interconnect test will run further tests, adapting to the state of your board, to pinpoint the location of the error. Many of our clients have found faults on boards previously thought to be fault-free.

Flash programming

The XJTAG website has a range of Flash device files for you to download, which include functions to program the Flash with any image.

These files simply use the programming algorithms from the device datasheets, as for any other non-JTAG device test in XJEase. There's no need to list the connections between the Flash and your JTAG devices — XJEase uses your netlist to work this out automatically. The underlying XJEase system then generates the required vectors to program your Flash.

Test coverage analysis

As soon as you have a basic circuit design, you can check how much of the board is covered by your XJEase test system. You can see where to add extra connections to improve the coverage. This test coverage is automatically calculated from the combination of the XJEase interconnect test and the additional testing of non-JTAG devices.

XJTAG has produced a Design For Test (DFT) document as a reference guide, covering many of the issues involved in using the full potential of XJEase.

CPLD/ FPGA programming

Many JTAG devices, such as CPLDs and FPGAs, can be programmed directly using STAPL / JAM or SVF files generated from tools of the device manufacturer. This programming can be done as a standalone process or integrated into your XJEase test system using a single line of code.

Integration

The COM Interface allows you to integrate XJEase with test executives such as LabVIEW, Visual Basic and other Windows-based custom applications.

Comes with XJRunner



See the XJRunner Data Sheet for more details.

Features

- Test coverage analysis before you go to PCB layout
- Built-in adaptive interconnect test
- Reuse device files to save time — free library of standard parts available online
- Program devices — e.g. CPLDs, FPGAs, Flash
- Advanced testing — e.g. Ethernet loopback
- Integration with custom applications to create a full test system
- Supported netlists include EDIF 2 0 0, RINF, Protel, PADS-PCB, ALLEGRO and many other formats
- Supports 1149.1 and 1149.6 devices

XJTAG gives you more...

All of the features above are included when you buy XJEase. The price you pay also includes:

- XJRunner — the specialised run-time environment for executing XJEase tests
- XJLink — the USB 2.0 to JTAG interface required to connect your PC to the circuit under test
- Floating licence, held within the XJLink, so you can install the software on a number of machines
- Demonstration hardware
- Full tutorial

